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A Pedagogy for Work-based Learning at Level 5 for Foundation Degree Studies in Architectural Technology and Construction Management

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ABSTRACT

The central Government agenda towards widening participation in Higher Education and its target of 50 % of adults to be involved by 2010 is amongst the drivers towards innovative and changing modes of learning and teaching. A by product of this is the number of students adopting a part-time route toward academic qualification. The ramifications of this involve limited time for personal attendance at teaching institutions and a requirement for directed learning within the framework of the workplace. The interpretation both nationally and internationally of work based learning appears to be inconsistent. The research involved in this paper concludes with a recommendation to identify that model appropriate for students studying toward the awards of Foundation Degree in Architectural Technology and Construction Management at Northumbria University.

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INTRODUCTION

The Government has placed increasing emphasis on flexible modes of delivery including Work Based Learning as important mechanisms for achieving the realisation of the UK's higher skills agenda and for delivering better productivity levels and economic growth (Leitch Review 2006)

"There is still some confusion however as to what exactly constitutes learning in the workplace"

In this statement, David Gray, University of Surrey, confirms the belief that there is necessarily a differentiation between Work Based Learning and that delivered in more traditional modes of attended lecture, seminar, tutorial and tutored project. Many UK institutions (Bournemouth University, Northumbria University and notably Middlesex University) have been keen to introduce the concept. This is problematic, in part due to the diverse nature of the learner; be it by age, experience, vocational discipline and also by resource availability of the supporting academic institution. Eraut *et al* (1998) suggest that learning of a formal nature in the workplace is only a small part of the 'osmosis' of skills and knowledge.

THEORETICAL FRAMEWORK BEHIND WORK BASED LEARNING

Ravens (1992) was amongst the first to consider the need and nature of 'Action Learning' as 'a social process (*sic.*) people learn from and with each other, and a learning community comes into being.'

- 'Action Learning's progressed by Gray contained benefits, amongst others; Goes beyond simulation or case study work
- Allows the participants to engage in real work studies, to determine and describe real problems and positive factors

Demands that intellectual and practical knowledge and skills be combined to solve problems

Raelin (2000) states that Work Based Learning constitutes 'reflection', i.e reviewing and learning from experience. This experiential notion also juxtaposes Kolb's concept of the experiential learning cycle (fig 1) as against Action Learning. Central to this is the idea of meta competence ('M')-new learning that can be transferred to new situations.

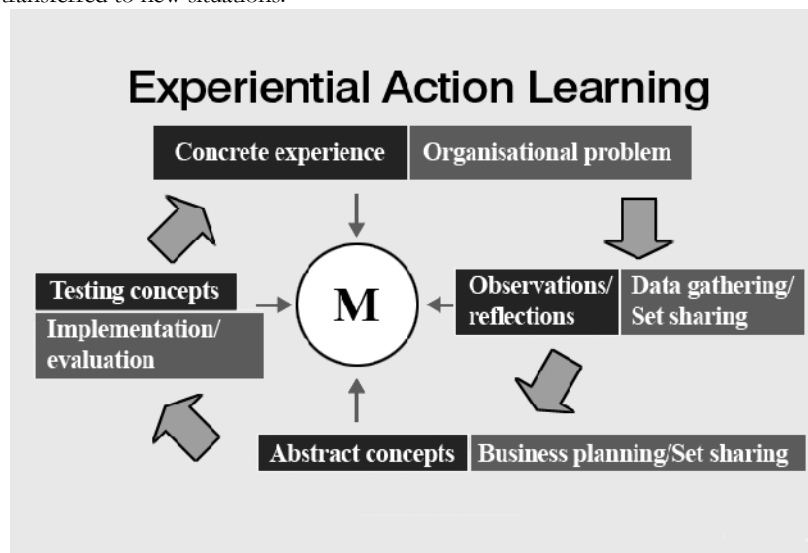


Fig 1

In this model, an action learning centred approach would see an individual to gather data from which to pose questions. Through reflection therein, this is followed by Kolb's testing and implementation in practice. Research carried out by Jonathan Garnett (2001) supports and furthers Gray's ideas and states that 'work based learning is learning that not only takes place **at work** but **through work** and **for work**'. This notion is carried forward with the idea of partnering in the suggestions of Boud and Solomon (2001).

- A partnership between an external organisation specifically established to foster learning – this is seen as a relationship of satisfying need by the external organisation in return for revenue to the educational institution.
- Learners are employees and have some contractual relationship with the external organisation that negotiate learning plans approved by the educational institution and the organisation
- The programme followed derives from the workplace and of the learner rather than the controlled by the disciplinary curriculum
- The starting point and level of the programme is established after a review and evaluation of current learning
- A significant element of the programme is work based learning projects that meet the needs of the learner and the organisation
- The educational institution assesses the learning outcomes of the negotiated programmes with respect to a transdisciplinary framework of standards and levels

It is interesting in the previous set of points that any assessment be vocationally rather than curriculum driven yet assessed in accordance with the academic provider. It can, and is argued that the employer should also have some input into assessment.

Raelin (1998) provides a matrix displaying four learning types at the individual level but also states that the model is subject to constraints such as the readiness level of the learner and the strengths and preferences of the facilitator(s)

Table 1 A model of work based learning – (individual level)

Modes of learning	Forms of knowledge	
	Explicit	Tacit
Theory	Conceptualisation	Experimentation
Practice	Reflection	Experience

Models of Work-based Learning

Initial extensive studies into the area of Work Based Learning arose from engineering, and particularly the social and health care sectors. The 'Standard for Childhood Practice 2007' (Scottish Social Services Council) details collaboration as being a form of service level agreement between employer and academic institution. Their principles for learning and teaching are;

- A basis on learning through the workplace
 - Delivery through partnership
 - Flexible, responsive and adaptable opportunities for learning
 - Challenging and stimulating
 - Provision of effective support for learners
-



Fig 2 The Inter relationship of the main aspects of professional development (The Standard for Childhood Practice 2007)

Assessment is related to the learning outcomes defined by the Standard for Childhood Practice, but that the providers of the programmes (i.e. the academic institutions) lead on this while carefully considering input from employers.

It can be seen that common threads emerge from both theoretical and practical background to Work Based Learning; workplace, experiential learning, partnerships, academic provider, industrial/vocational provider, modes of assessment

The Middlesex Concept

Middlesex University are widely recognised as a leader in the field of work base learning

The Centre for Excellence in Work Based Learning (CEWBL) is one of 74 Centres for Excellence in Teaching and Learning awarded to Universities in England by the Higher Education Funding Council for England (HEFCE) in 2005. The CEWBL is at the leading edge of developing and rewarding teaching and learning which is directly related to the demands of knowledge-driven economies.

Work Based Learning at Middlesex University that synthesize the impact it makes for you the learner and your organisation. These are:

Transforming: Recognises and validates learning from non academic experience, transforming it into personal, professional and organisational growth. Work Based Learning empowers and enables change through personalised learning; producing a capacity for the reinvention of the individual and their organisation.

Enabling: Opens educational progression routes to those who never previously considered higher education. Work Based Learning provides flexible and dynamic pathways of learning linking in to other areas of work based provision from Foundation Degrees, degrees and Masters and extending beyond to Doctorates.

Developing: Develops critical thinking and reflection through programmes designed and tailored for the individual, involving elements of blended learning, accreditation and support. Work Based Learning at Middlesex put the learner's development in the central place, creating a flexible learning experience that is delivered through work, in work, by work.

Responding: Addresses the needs of individuals and organisations with a cost-effective means of enhancing knowledge and capacity that is tailored to individual requirements. Work Based Learning empowers and enables change through personalised learning; developing the capacity and capability of your organisation's workforce.

Translating: Brings the University to the workplace, making you and your work the subject of study. Work Based Learning recognises the value of work as a source of knowledge and experience, and the workplace as an important learning environment, bringing the methods and academic rigour of higher education to the curriculum of working life.

Leading: Work Based Learning at Middlesex University consists of experts who are acknowledged as world leaders and innovators in the field. We have pioneered, and continue to lead the development of work based learning in higher education. The Institute for Work Based Learning and the Centre for Excellence in Teaching and Learning in Work Based Learning exemplify this primacy and leadership.

International Approaches

Research suggests that while academic institutions internationally have approached Work Based Learning, an area of particular progress is that of Australia. Henry *et al* (2001) indicate significant developments in professional development under the arm of Australia's vocational education and training (vet) sector from the early 1990s. Work Based Learning became the preferred model for professional development. Research sponsored by the National Staff Development Committee of the Australian National Training Authority in 1993 identified action learning as being appropriate for structuring national Professional Development programmes.

The Northumbria Models

Learning Contract

The student will negotiate their programme at the outset. A Learning Contract is especially useful for large or complex programmes, as it will identify the mix of modules and learning the student needs. Other modules will include learning proposals but these will be specific to that module; the Learning Contract covers the whole programme.

The Learning Contract will be based upon the student's professional needs and for workforce development. It will be formative in that it will be periodically reviewed and adjusted if necessary; students will need to reflect on their progress as they work through their programme.

Managing Own Learning

This module manages the learning process once the programme has started – it includes reflection, evaluating the learning as it takes place and study skills.

Independent Study

The student – or their organisation – will identify an issue within the workplace that merits investigation, and draw upon a wide range of specialised or conceptual information in order to formulate a response appropriate to that issue. The student will need to be able to differentiate between theory and practice. Deciding on the topic to investigate is a matter of negotiation, from which the student will draw up a mandatory study proposal to be formatively assessed.

NB This module can be taken up to level 5 and is appropriate preparation for academic research at higher levels. However, academic research required for the submission of a dissertation at a higher level needs

to be formalised by studying either a University Schools-based research methods module, or a Work-related Learning Framework module “Independent Study and Work-based Investigation” at the appropriate level.

Independent Study and Work-based Investigation

The student will identify a work-related issue or challenge which requires investigation; it may not necessarily be directly related to their own job role or scope. This therefore will allow the student to direct energy towards an area of work which may be relevant to them or perhaps match their career aspirations. However, it is still essential that they receive support from their employing organisation for this module, and the topic for consideration must present them with sufficient intellectual challenge.

The student will develop and demonstrate they have applied research and study skills effectively, such as exploring complex concepts, theories and making informed judgments.

The student will negotiate their research topic and submit a mandatory project proposal, and also make a presentation based on this.

Work-based Project

The student will identify a subject or area of work to form a project, for which they will accept ownership. The project will focus on organisational issues and enable the student to develop and enhance their skills such as diagnosis, analysis, developing strategies to address problems etc. The project will be within the student's own role or scope and be of a level of complexity that is equal to, or more, than their level of responsibility. It is feasible for students to be together in a cohort and therefore working jointly on the same organisational issue – each student will however submit their individual work.

This module is available at all levels, 3 – 7, and as either 20 or 30 credits with the exception of level 3 which is available at 20 credits only.

The student will put forward a project proposal, and at a later stage make an oral presentation of their findings.

Work-based Dissertation

This module is available only at level 7 and is 60 credits. The student will need to demonstrate that they have sufficient research skills and capability before embarking on this module.

The context and content of this module is similar to the Work-based Project, but the investigation will be of greater depth and/or duration (as reflected in the number of credits) and the longer final report will meet all the criteria for an academic piece of study.

Students will submit a mandatory project proposal and a presentation.

Academic Recognition for Continuing Professional Development (CPD)

Learners are often in an environment where they receive training and development that is specific to their occupational sector as part of their work. This may be a requirement of their professional body, their employing organisation or by a desire to keep up-skilled for career purposes. These modules enable the learner to obtain academic credit for these experiences.

The student will devise a learning proposal which identifies their appropriate CPD activity with a justification for these activities, and an action plan / timeline. Students need to attend events of at least six full days / 48 hrs (for 20 credit module) or three full days / 24 hrs (for 10 credit module). Students will then reflect upon these experiences and contextualise them to their work circumstances. (Note: CPD activities for this module do not include other study that receives university recognition.)

CONCLUSION

After consideration of the advent and progression of Work Based Learning as an increasingly recognised element of academic approach, and the fundamental links both Architectural Technology and Construction Management have in practical application, it would appear necessary to incorporate this mode of teaching into existing academic programmes. This report has been researched and written such that it investigates the rationale, pedagogy of Work Based Learning as a whole, but with particular relevance to studies at Level 5 of Northumbria University's Foundation Degree programmes in Architectural Technology and Construction Management. Future consideration may be given towards potential inclusion into higher award programmes of study.

In making use of Northumbria's own framework, it would appear that both the 'Learning Contract' and 'Managing Own learning' approaches lend themselves more to reflective practice on academic rather than vocational issues. The 'Independent Study and Work Based Investigation' is considered by the author to be advanced at level 5 which should be consolidating on base knowledge rather than expansive research. While worthy of consideration of adoption, the Work Based Project approach would appear to be encouraging investigation into organisational issues rather than the technical content required by overall programme. The Work Based Dissertation cannot due to its being available only at level 7, and Academic Recognition for Continuing Professional Development (CPD) is again pitched at a significantly higher level of achievement.

It would seem therefore that the adoption of the Independent Study model be considered. This has the benefits of a mutually and formally agreed area of study and research between learner, academic and employment provider and makes specific reference to both theoretical and practical approaches (c.f. Gray, 1999). The bases of academic programmes in Architectural Technology and Construction Management are very much appropriate due to their necessarily footings in both academic and vocational knowledge. Any such area would of course need to be aligned with the timescales of interim and final submissions as indicated within the Module Descriptor (draft attached). The learner would be called upon also in the preparation of the submissions to observe commercial sensitivities. This is particularly pertinent due to the nature of the directed learning element in that the iterative construction of the report(s) will be in an agreed media format, be that e mail with attachment, on line through e learning portal or hard copy,

It is essential that directed learning materials are issued at commencement of the module, and that the limited contact time be accurately timetabled. Guidance would be provided by the learner's Guidance tutor (a byproduct of this being making it essential that each learner meets with their Guidance tutor, something which does not necessarily happen as a matter of course.) The area to be researched by the learner is to be mutually agreed and subject to a 1,500 word proposal not exceeding 1500 words submitted early in the semester. (week 4). The remaining twelve weeks are to be spent by the learner gathering the evidence necessary to display achievement of the Learning Outcomes detailed within the module descriptor, with the final submission being by way of a written report not exceeding 2,500 words supporting the learner's presentation to a small panel on findings and suggestions for potential future research. This does not alleviate the Module Tutor for overall moderation and collation of submissions.

It would appear that the benefits to the learner and both academic and employment provider are of great potential.

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